

Applicant(s): Tatsuya HAGA et al.

transporter, and containing the material which suppresses the activity or the expression of a protein having high-affinity choline transporter activity according to claim 83 as an active component.

96. (New) A diagnostic method for diseases relating to the expression or the activity of a high-affinity choline transporter characterized in comparing a DNA sequence encoding a high-affinity choline transporter in a sample to a DNA sequence encoding the protein according to claim 20.

97. (New) A diagnostic probe for Alzheimer's disease comprising a whole or a part of an antisense strand of DNA or RNA encoding the protein according to claim 20.

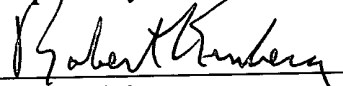
98. (New) A diagnostic drug for Alzheimer's disease characterized in containing the antibody according to claim 28.

REMARKS

This Preliminary Amendment is made to eliminate multiple claim dependency. Examination on the merits of the application is requested. A marked up version showing the changes made to the claims is attached.

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Respectfully submitted,


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MARKED-UP VERSION OF THE CLAIMS

24. (Amended) [The fusion protein according to claim 23] A fusion protein being constructed by expressing a cDNA encoding fusion protein of a protein having high-affinity choline transporter activity and a marker protein and/or a peptide tag, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity according to claim [15 or] 16.

25. (Amended) [The fusion protein according to claim 23] A fusion protein being constructed by expressing a cDNA encoding fusion protein of a protein having high-affinity choline transporter activity and a marker protein and/or a peptide tag, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity according to claim [17 or] 18.

26. (Amended) [The fusion protein according to claim 23] A fusion protein being constructed by expressing a cDNA encoding fusion protein of a protein having high-affinity choline transporter activity and a marker protein and/or a peptide tag, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity according to claim [19 or] 20.

27. (Amended) [The fusion protein according to claim 23] A fusion protein being constructed by expressing a cDNA encoding fusion protein of a protein having high-affinity choline transporter activity and a marker protein and/or a peptide tag, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity according to claim [21 or] 22.

29. (Amended) [The antibody according to claim 28] An antibody which specifically binds to a protein having high-affinity choline transporter activity, wherein the

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protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity according to claim [15 or] 16.

30. (Amended) [The antibody according to claim 28] An antibody which specifically binds to a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity according to claim [17 or] 18.

31. (Amended) [The antibody according to claim 28] An antibody which specifically binds to a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity according to claim [19 or] 20.

32. (Amended) [The antibody according to claim 28] An antibody which specifically binds to a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity according to claim [21 or] 22.

33. (Amended) The antibody according to [any one of claims 28 to 32] claim 28, wherein the antibody is a monoclonal antibody.

35. (Amended) [The host cell according to claim 34] A host cell containing an expression system which can express a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity according to claim [15 or] 16.

36. (Amended) [The host cell according to claim 34] A host cell containing an expression system which can express a protein having high-affinity choline transporter

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activity, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity according to claim [17 or] 18.

37. (Amended) [The host cell according to claim 34] A host cell containing an expression system which can express a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity according to claim [19 or] 20.

38. (Amended) [The host cell according to claim 34] A host cell containing an expression system which can express a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity according to claim [21 or] 22.

40. (Amended) [The non-human animal according to claim 39] A non-human animal whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity according to claim [15 or] 16.

41. (Amended) [The non-human animal according to claim 39] A non-human animal whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity according to claim [17 or] 18.

42. (Amended) [The non-human animal according to claim 39] A non-human animal whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome, wherein the protein

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having high-affinity choline transporter activity has human high-affinity choline transporter activity according to claim [19 or] 20.

43. (Amended) [The non-human animal according to claim 39] A non-human animal whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity according to claim [21 or] 22.

44. (Amended) The non-human animal according to [any one of claims 39 to 43] claim 39, wherein the non-human animal is a mouse or a rat.

45. (Amended) A preparing method of a cell having high-affinity choline transporter activity characterized in introducing the gene according to [any one of claims 8 to 10] claim 8 into a cell whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient on its chromosome.

46. (Amended) [The preparing method of a cell having high-affinity choline transporter activity according to claim 45] A preparing method of a cell having high-affinity choline transporter activity characterized in introducing the gene according to claim 8 into a cell whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient on its chromosome, wherein the cell having high-affinity choline transporter activity is integrated with the gene [or the DNA according to any one of claims 8 to 10] in its chromosome, and stably shows high-affinity choline transporter activity.

47. (Amended) A cell having high-affinity choline transporter activity being obtainable by the preparing method of a cell having high-affinity choline transporter activity according to claim 45 [or 46].

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48. (Amended) A screening method of a promoter or a suppressor of high-affinity choline transporter activity characterized in measuring/evaluating high-affinity choline transporter activity of the protein having high-affinity choline transporter activity [according to any one of claims 14 to 22] claim 14 in the presence of a subject material.

50. (Amended) [The screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to claim 49] A screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in comprising the steps of: a cell membrane or a cell which expresses a protein having high-affinity choline transporter activity is cultivated in vitro in the presence of a subject material; the activity and/or the expression amount of a protein having high-affinity choline transporter activity in the cell membrane or the cell is measured/evaluated, wherein the cell membrane or the cell which expresses a protein having high-affinity choline transporter activity is the host cell containing an expression system which can express a protein having high-affinity choline transporter activity according to [any one of claims 34 to 38] claim 34[, or is the cell having high-affinity choline transporter activity according to claim 47].

51. (Amended) The screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to [any one of claims 48 to 50] claim 48, wherein the protein having high-affinity choline transporter activity is a recombinant protein.

52. (Amended) A screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in comprising the steps of: a cell obtained from the non-human animal according to [any one of claims 39 to 44] claim 39 is cultivated in vitro in the presence of a subject material; the activity and/or the expression amount of a protein having high-affinity choline transporter activity in the cell is measured/evaluated.

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56. (Amended) The screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to [any one of claims 52 to 55] claim 52, wherein the non-human animal is a mouse or a rat.

57. (Amended) A material which promotes activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to [any one of claims 48 to 56] claim 48.

58. (Amended) A material which suppresses activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to [any one of claims 48 to 56] claim 48.

59. (Amended) A medical constituent characterized in being used for a medical treatment for a patient who needs elevation of the activity or enhancement of the expression of a high-affinity choline transporter, and containing the protein according to [any one of claims 14 to 22,] claim 14 [and/or the material which promotes activity or expression of a protein having high-affinity choline transporter activity according to claim 57] as an active component.

60. (Amended) A medical constituent characterized in being used for medical treatment for a patient who needs suppression of the activity or the expression of a high-affinity choline transporter, and containing the protein according to [any one of claims 14 to 22,] claim 14 [and/or the material which suppresses the activity or the expression of a protein having high-affinity choline transporter activity according to claim 58] as an active component.

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61. (Amended) A diagnostic method for diseases relating to the expression or the activity of a high-affinity choline transporter characterized in comparing a DNA sequence encoding a high-affinity choline transporter in a sample to a DNA sequence encoding the protein according to claim 19 [or 20].

62. (Amended) A diagnostic probe for Alzheimer's disease comprising a whole or a part of an antisense strand of DNA or RNA encoding the protein according to claim 19 [or 20].

63. (Amended) A diagnostic drug for Alzheimer's disease characterized in containing the diagnostic probe according to claim 62 [and/or the antibody according to any one of claims 28 to 33].